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Letter To The Editor

Old trees: Precious natural heritage on isolated islands

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Abstract

Old trees on the South China Sea islands represent a unique and irreplaceable element of the region's ecological heritage. Their resilience and critical role in maintaining local biodiversity highlight the need for immediate conservation efforts to protect these natural treasures from environmental and human threats.

Key words: Biodiversity conservation, environmental adaptation, Old trees, South China Sea islands

Old trees, revered for their age and resilience, are found in diverse environments ranging from cities and rural areas to dense forests and wilderness (Jim 2018). However, these old guardians of nature are exceedingly rare on isolated islands (Ibanez et al. 2021), particularly those scattered across the South China Sea. The few old trees that have managed to survive on these remote islands are not only rare but also incredibly precious, having endured and adapted to the harsh climates and poor soil conditions unique to these small land masses (Wang et al. 2011). These old trees are living testaments to the remarkable adaptability of species and play an indispensable role in the fragile ecosystems of these islands.

The existence of old trees on these isolated islands vividly demonstrates extreme evolutionary adaptation. The trying environment of the South China Sea, characterised by high winds, salty air and infertile soils (Gong et al. 2013), poses significant challenges to plant life. Nevertheless, against all odds, these trees have survived and flourished, reaching a venerable age that speaks for their hardiness and ecological importance (Lindenmayer 2017). Their continued existence offers invaluable insights into the mechanisms of plant adaptation and resilience (Cannon et al. 2022), providing a living laboratory for studying evolution in extreme conditions.

Old trees on these small islands are critical components of the local ecosystems. They offer a crucial assortment of micro-habitats for various species, particularly those that rely on the unique and often stressful environmental conditions provided by the islands. Seabirds and epiphytes are amongst the many organisms that depend on these trees for shelter, nesting and sustenance (Li et al. 2021). The trees' canopies also support a diverse array of epiphytes with companion organisms, contributing to the islands' overall biodiversity (Díaz et al. 2012). Essentially, these old trees are keystone species (Lindenmayer et al.

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2014) and their presence is collaterally or synergistically vital to the survival and reproduction of numerous other species on and around these faraway islands.

Given the critical role of old trees in maintaining the ecological balance of the South China Sea islands, we advocate that steps must be taken promptly to ensure their protection. Unfortunately, the current lack of focused conservation efforts leaves these old trees vulnerable to the threats posed by relentless natural disasters and human perturbations. Without immediate and effective protection measures, we risk losing these irreplaceable natural treasures and the unique ecosystems they support.

We, therefore, call on the relevant Chinese authorities to prioritise the conservation of old trees on the small islands of the South China Sea. This action should include establishing protected areas reinforced by statutory instruments and management measures, whereupon these trees can be safeguarded from artificial interference and environmental degradation (Chen 2011). Enhanced understanding of the ecology and diversity of old trees on the South China Sea islands constitutes a crucial scientific challenge that demands attention. Additionally, efforts should be made to raise public awareness about the eclectic importance of these trees, not only for their ecological value, but also as symbols of resilience and adaptation in the face of adversity. By protecting these old trees, we are preserving biodiversity and safeguarding the ecological heritage of the South China Sea islands for future generations. We suggest that the Chinese government and relevant agencies take immediate steps to ensure the survival of these natural treasures, thereby preserving a vital part of our planet's ecological diversity.

Additional information

Conflict of interest

The authors have declared that no competing interests exist.

Ethical statement

No ethical statement was reported.

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Author contributions

XC and CYJ conceived and designed the research;XC performed research; XC Wrote the original draft; CYJ reviewed and edited. All authors had read and agreed to the published version of the manuscript.

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Data availability

All of the data that support the findings of this study are available in the main text.

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